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**Publications**

... Marjanovic, O., Lennox, B., Goulding, PR and Sandoz, DJ (1999), 'Optimal control of robot manipulators', Proceedings of **DYMAC Conference**, Manchester, 235 ...  
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... ability to inferentially estimate, using **Partial least Squares**, the value ... information generated by multivariate statistical **process control** (MSPC) techniques ...

www.cpact.com/.../ Multivariate%20statistical%20analysis%20of%20bp%20polymer%20manufacturing%20process.doc - [Similar pages](#)

### [STATISTICA Multivariate Statistical Process Control \(MSPC\) ...](#)

... widest selection of univariate and multivariate techniques for statistical **process control** applications, deployed ... Analytic Capabilities: **Partial Least Squares**. ...

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### [Integrated Multivariate Statistical Process Control and Condition ...](#)

... Analysis (PCA), **Partial Least Squares** (PLS) and Kernel Density Estimation (KDE), and combining them to form an integrated robust **process control** and monitoring ...

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... for Non-linear **Partial Least Squares**. Conclusions. Data Rich Information Poor.

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www.strath.ac.uk/Other/cpact/ presentations/2003/ppts/Martin%20(reserve).ppt -

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### [Joe S. Qin](#)

... We make use of principal component analysis, **partial least squares**, dynamic models ... and control represent an emerging area of **process control** where tremendous ...

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... Getting started. Graphing data. Using data – getting results. Statistical **process control**.

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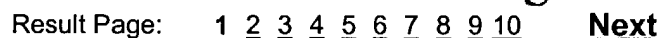
### [CPAC Successful Technology Transfer](#)

... Process monitoring software, eg, principal components analysis, **partial least squares**,

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... of Projection Methods for Multivariate Statistical **Process Control**. ... MacGregor, JF, and Kourti, T. (1999). ... Multiway **Partial Least squares** in Monitoring Batch ...  
[www.chemeng.mcmaster.ca/faculty/kourti/W\\_HDOUT\\_KOURTI.pdf](http://www.chemeng.mcmaster.ca/faculty/kourti/W_HDOUT_KOURTI.pdf) - [Similar pages](#)

### Chemical Engineering and Advanced Materials Research Pages

... Statistical **Process Control** using **Partial Least Squares** and Canonical Variate Analysis  
 A. Simoglou, EB Martin and AJ Morris Computers Chem Engng, 1999, 23, pp ...  
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### Publications

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### Hansen et al., July 1999

... **partial least squares** was used. Key Words: lactose hydrolysis, multivariate curve resolution, **process control**, reference-independent estimation. 1999 J. Dairy ...  
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... 6:00 pm on Tuesday 12 October, 1999. ... development of multivariate statistical **process control** (MSPC) has ... related methods such as **partial least squares** regression ...  
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## Barry Lennox at CSC, UMIST

... GA and Lennox, B., (2000), 'Multivariate statistical ... B., (2003), 'Recursive **partial least squares** algorithms for ... processes', Journal of **Process Control**, 14 (1 ...  
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... User. Mr. **David Sandoz**. General Manager. [dsandoz@newport.com](mailto:dsandoz@newport.com). Newport Instruments Canada Ltd. 2650 Meadowvale Blvd., Unit #3. Mississauga. ONTARIO. Canada. L5N 6M5. ...  
[https://cipi.goldsystem.ca/internet/u\\_702\\_01.asp?id\\_utilisateur=1301](https://cipi.goldsystem.ca/internet/u_702_01.asp?id_utilisateur=1301) - 11k - [Cached](#) - [Similar pages](#)

Standings

... Race 1. Race 2. Race 3. Race 4. Race 5. Race 6. Race 7. Race 8. Total. **David Sandoz**.  
 0. 0. 0. 0. 0. 0. 0. 0. 0. Rick Dodson. ... 0. 0. 0. 0. 0. 0. 0. 0. **David Sandoz**. 1100.  
 0. 0. 0. 0. 0. 0. 0. 1100. ...  
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David James Sandoz

**David James Sandoz**. Professor of Industrial Control Engineering. Chairman of Predictive Control Ltd. Qualifications and Awards. B.Eng ...  
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... **David El Pyott** joined Allergan on January 1, 1998, as President and Chief ... Mr. Pyott joined **Sandoz** in 1980 working in several positions in strategic planning ...  
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[www.ne.ch/.../Archives\\_2987/Archives\\_3091/FondsFamilles.html?StyleType=marron&CatId=3091&DocId=4577](http://www.ne.ch/.../Archives_2987/Archives_3091/FondsFamilles.html?StyleType=marron&CatId=3091&DocId=4577) - 45k - [Cached](#) - [Similar pages](#)

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## Abstract

**Kruger U., Desforges M.J., Lennox B., Sandoz D.J.**

"On the Application of Non-Linear Partial Least Squares to Industrial Process Control" (1999)

*DYMAC Conference, Manchester 1-3. September 1999*

<http://www.ee.qub.ac.uk/isac/Private/papers/KrugerU/Conference/dymac1999a.pdf>

Partial Least Squares (PLS) has gained importance as regression tool, addressing cases where standard least squares techniques fail in providing a unique solution or where the parameter estimation is strongly biased. Additionally, PLS has also been suggested as a nonlinear modelling tool, an application which is discussed in this paper. This paper reviews existing nonlinear PLS approaches and introduces an alternative method, denoted as NLDPLS. Two different case studies are proposed to demonstrate the performance of NLDPLS. It is further described how the NLDPLS model can be incorporated in the industrial process control framework based on Model Based Predictive Control.

## Search results for "kruger"

1. **Antory, D., Kruger, U., McCullough, G. and Irwin G. W.**  
"Detecting Air Leaks in An Engine Intake Manifold Using Nonlinear PCA" (2004)  
*Proc. IFAC Symposium on Advances in Automotive Control, Fault Management Section, Salerno, Italy, April 19-23, 2004, pp. 404-409.*
2. **Chen Q, Kruger U, Leung A Y T**  
"Regularised Kernel Density Estimation for Clustered Process Data" (2004)  
*Control Engineering Practice, Vol. 12, No. 3, pp. 267-274, 2004*
3. **Chen, Q., Kruger, U., Meronk, M., Leung, A.Y.T.**  
"Synthesis of T2 and Q-Statistics for Process Monitoring" (2004)  
*Control Engineering Practice, Vol.12, No.6, pp. 745-755, 2004.*
4. **Kruger, U., Zhou, Y., Irwin, G.W.**  
"Improved Pricipal Component Monitoring of Large-Scale Processes" (2004)  
*Journal of Process Control*
5. **R.J. Treasure, U. Kruger, J.E. Cooper**  
"Dynamic multivariate statistical process control using subspace identification" (2004)  
*Journal of Process Control, Vol. 14, No. 3, pp. 279 - 292, 2004.*
6. **Antory D, Kruger U, Irwin G W and G McCullough**  
"Fault diagnosis in internal combustion engines using Principal Component Analysis" (2003)  
*Proc. 4th International Conference on Control and Diagnosis in Automotive Applications, CDAUTO'03, Engine On-Board Diagnostic Section , Paper No. 03A2029, published by ATA Sezione Liguria, 18-20 June, Genova, Italy.*
7. **Antory, D., Kruger, U., Irwin, G.W, McCullough, G.**  
"Application of Non-linear Principal Component Analysis for Fault Detection and Diagnosis in Combustion Engines" (2003)  
*Proceedings of the Irish Systems and Signals Conference, pp. 494 - 499, Limerick, Ireland, 1-2. July, 2003*
8. **Antory, D., Kruger, U., Irwin, G.W., and McCullough, G.**  
"Fault Diagnosis in Internal Combustion Engines" (2003)  
*Proceedings of 6th Annual Sir Bernard Crossland Symposium & Research Workshop, NUI Galway, Ireland, pp. 119, ISBN 1-898012-33-4*
9. **Antory, D., Kruger, U., Irwin, G.W., McCullough, G. and Hung, P.**  
"Misfire Detection by Monitoring Exhaust Gas Temperature Using A Neural Networks Model" (2003)  
*Proceedings of the 8th Indonesian Students' Scientific Meeting (ISSM03), TU Delft, The Netherlands, ISSN 0855-8692, pp. 143-148*
10. **Kruger U., Qin, S.J.**  
"Mathematical Development of the Canonical Correlation Partial Least Squares Algorithm" (2003)  
*Proceedings of the 13th IFAC Symposium on System Identification (SYSID2003), pp. 1643-1648, Rotterdam, The Netherlands, 27-29. August, 2003*
11. **Kruger, U. Qin, S.J**  
"Fault Detection and Diagnosis using Canonical Correlation Partial Least Squares (invited paper)" (2003)  
*Advances in Process Analytics and Control Technology (APACT), York, U.K., 28-30. April, 2003*
12. **Kruger, U. Qin, S.J.,**  
"Applications of Canonical Correlation Partial Least Squares to Statistical Process Control" (2003)  
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13. **Sharma S K, Kruger U, Irwin G W**  
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*Preprints of the IFAC International Conference on Intelligent Control Systems and Signal Processing, Faro, Portugal, pp. 37-42, April 8-12, 2003.*
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19. **Kruger U. and Sandoz D.J.**  
"Application of PCA for Detecting and Diagnosing Abnormal Process Behaviour" (2001)  
*Proceedings of the IFAC Conference on New Technology for Computer Control, pp.413 - 418, Hong Kong, 19-22 November 2001*
20. **Kruger U., Chen Q., McFarlane R.C., Sandoz D.J.,**  
"Extended PLS Approach for Enhanced Condition Monitoring of Industrial Processes" (2001) [\[Abstract\]](#)  
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22. **Kruger U., Wang X., Chen Q., Qin, S. J.**  
"An Alternative PLS Algorithm for the Monitoring of Industrial Process" (2001) [\[Abstract\]](#)  
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23. **Wang X., Kruger U., Lennox B., Goulding P.R.**  
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